

2022 NextGen NHTS Compatibility with Prior Data

(Version 1.0, November 2023)

Since 1969, the Federal Highway Administration (FHWA) has been collecting travel behavior data to answer evolving questions related to how, why, when, and where people travel through a probability-based random sampling survey approach. The 2022 Next Generation National Household Travel Survey (NextGen NHTS) is the ninth and most recent survey in this series.

As its name implies, the NextGen NHTS reflects several important changes to the NHTS program. This includes:

- **More frequent surveys:** the NextGen NHTS design aims to provide timely data on an ongoing basis in an effort to capture emerging trends and changes in travel.
- **Smaller samples:** each NextGen NHTS survey cycle will collect data from a minimum target of 7,500 households. This lower sample means that survey data is representative for national or census division level analyses, not lower levels of geography such as state or local areas. Over an 8 to 10-year period, the total number of households surveyed will equal or surpass that collected in the past.
- **More focused questions:** to fulfill its objectives, the NextGen NHTS will focus on obtaining details to understand emerging trends and inform priority policy questions.

The 2022 NexGen NHTS survey documents the demographic, attitudinal, and travel behavior for all members of 7,893 households, as collected from January 2022 to January 2023. Daily travel details provide insights into work and school commutes, non-emergency medical trips, shopping trips, and how travel differs in the summer or on weekends as compared to the typical weekday when school is in session. When statistically weighted to adjust for survey biases, the data demographically represents Americans living in non-group quarters and is appropriate for analysis at the national and census division levels.

2022 Special Topic Questions

The 2022 NextGen NHTS design continued FHWA's practice of including questions on special topics of interest at the time the survey was designed. The survey results include data on the following topics:

- **Equity:** the NHTS series is a rich source of information about travel by all Americans—including those of special concerns regarding transportation equity. In addition to linking demographic characteristics with travel behavior data, the 2022 NextGen NHTS includes data on trips not made and the reasons why (including cost, safety concerns and lack of reliable options).
- **COVID-19:** a special question set related to the continuing impact of COVID-19 on travel was included. The questions focused on both how COVID-19 impacted travel to a physical work or school location, using public transit, and online purchases; and insights into whether these changes were considered temporary or permanent.

- **Home-based work and education:** as part of the standard question set for workers, the 2022 NHTS obtains details about how often workers telework. For students, the location where education takes place (home or physical school location) is also noted.
- **Online shopping:** in addition to asking about the number of times online purchases were made in the past 30 days (something included in each NHTS since 2009), the 2022 survey includes questions that break down those purchases into goods, food or grocery delivery, or services; as well as how returns are made.
- **Use of household vehicles for commercial purposes:** the 2022 NHTS obtains details about each household member that drives a household vehicle for business purposes, details about that vehicle (year, make, model), and its use for rideshare, delivery service, or other business purposes.
- **Emerging travel modes:** respondents were asked to report how often they used emerging travel modes in the past 30 days, including rideshare, bikeshare, and e-scooters. In addition, respondents reported the use of these modes for their travel to work, school, and on the actual travel day.
- **Long-distance travel:** for the first time since 2001, the 2022 survey includes questions about the most recent long-distance trip made. Defined as a trip 50+ miles from home, details obtained include trip purpose, mode, and travel party size and composition. The number of trips made by Amtrak and intercity bus services over the past year for long-distance are also documented.

Survey Methodology Changes

The definition of a completed household has varied across the NHTS data collection cycles. Adjustments may be required to directly compare results over time.

- In 2009, household members 5+ were asked to report travel details. The dataset included those households where 50% or more of household adults completed the survey.
- In the 2017 NHTS, only households where all members 5 years old or older completed a survey were counted.
- For the 2022 NextGen NHTS, households of 1-3 persons required participation by all household members to be included in the data. Households of 4+ persons were included in the data if at least 75% of members completed the survey.

Additionally, a written travel diary was not provided to respondents to take with them on their assigned travel day. This reflects a change in the current state of practice in household travel surveys but is expected to significantly change comparability with the 1995 NPTS and 2001, 2009, and 2017 NHTS travel data. The expected decline in trip rates from this change amounts to 20%¹.

¹ The 1995 NPTS was the first iteration to use a travel diary. To account for diary vs. no diary differences, an adjustment to the 1990 travel data was performed. The difference in trip rates between adjusted and unadjusted numbers was approximately 20%, with a travel diary responsible for increased recall of primarily discretionary travel. For more information, see Appendix 2 of *Summary of Travel Trends: 1995 Nationwide Personal Transportation Survey*, available at https://nhts.ornl.gov/1995/Doc/trends_report.pdf. Users can also evaluate the impact directly by using the DIARY variable in these datasets.

The NHTS survey mode has changed over time, reflecting changes in survey industry best practices and societal preferences for completing surveys. The survey mode, along with any time of interviewer mediation, can influence the results reported and adjustments may be required to directly compare results over time.

- 1969, 1973, and 1983 NPTS were in-home interviews, with some telephone follow-up.
- 1990, 1995, 2001, and 2009 NPTS and NHTS were telephone-based surveys.
- 2017 NHTS offered phone, and web survey options (34% completed by phone, 66% online).
- 2022 NextGen NHTS offered mail and web survey options (1% completed by mail and 99% online).

Weighting Changes

The NHTS has always restricted the survey to non-group quarters individuals—omitting university dorms, nursing homes, military barracks, and incarcerated individuals. In prior surveys, due to the difficulty in quantifying the number of Americans living in group quarters, the total population was weighted to the overall 5+ population, including this group. In the 2022 NextGen NHTS, the total population has been weighted to a number removing the group quarters population. The expected drop in population from removing this group is approximately 2.5%.

Additionally, a larger than expected share of non-travelers was obtained in the sample. An adjustment was made in the weighting process to account for this, using the most recent American Time Use Survey data. Survey weights also considered journey to work travel modes and telework proportions as noted in the most recent American Community Survey and the National Walkability Index.

Finally, while three add-on surveys were conducted alongside the national sample, households in the add-on sample were not integrated into the overall data as they were in prior NHTS years. Only those households sampled for the national survey are included in the data.

Margin of Error Calculation Changes

Unlike in the 2001, 2009, and 2017 NHTS data, the 2022 NextGen NHTS data does not include replicate weights for error computation. A Taylor-series approximation for computing standard errors is appropriate. Sample SAS code for estimating variance using this approach is included in the Weighting Memo.

Omitted Variables Typically Found in Prior NHTS Data

Due to the decreased sample size in 2022 and the resulting inability to compute statistically valid estimates for geographics lower than Census division, variables such as HHSTATE and HH_CBSA have been omitted from the dataset. Similarly, the MODEL variable in the Vehicle file has been

omitted due to sample size issues. Other variables may have some responses suppressed to protect privacy, as noted in the codebook.

The variable HHRESP (Person identifier of household respondent) was also omitted in 2022, as every household had a value of 01, meaning PERSONID=01 was responsible for household-level questions and reporting in every household.